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# The role of implicit and explicit communication during first encounters of mixed-sex dyads in a naturalistic setting.

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THE ROLE OF IMPLICIT AND EXPLICIT COMMUNICATION  
DURING FIRST ENCOUNTERS OF MIXED-SEX  
DYADS IN A NATURALISTIC SETTING

A Thesis Presented

By

Don P. Sugai

Submitted to the Graduate School of the  
University of Massachusetts in partial  
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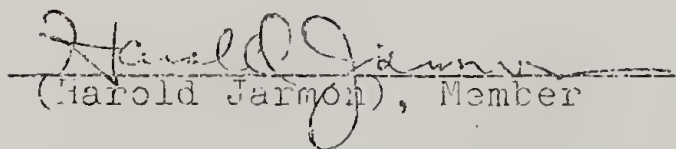
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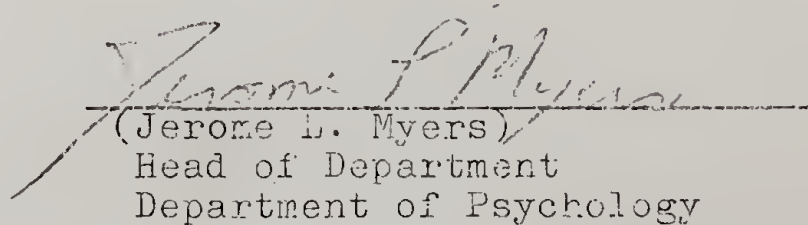
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## TABLE OF CONTENTS

	Page
Acknowledgements	iii
List of Tables	v
List of Figures	vi
Introduction	1
Method	25
Results	44
Discussion	57
Summary	67
Footnotes	69
References	70
Appendix A	74
Appendix B	75
Appendix C	76

## LIST OF TABLES

Table	Page
1 Inter-rater reliability coefficients for confederate performance (encoding)	27
2 Inter-rater reliability coefficients for observations (decoding)	29
3 Main effects of Immediacy of Communication and Sex of Confederate on dependent variables	46
4 Frequency of subjects' posture changes over intervals	47
5 Pearson correlation coefficients for three dependent variables across Sex of Confederate and Immediacy of Communication	55
6 Pearson correlation coefficients for three dependent variables across Immediacy of Communication	56
7 Pearson correlation coefficients for three dependent variables across Sex of Confederate	58
8 Pearson correlation coefficients for three dependent variables	59

## LIST OF FIGURES

Figure	Page
1 Interpersonal reward / cost aspect of social penetration process	10
2 Shoulder Orientation and Torso Lean for Positive and Neutral Immediacy	34
3 Eye contact as a function of Sex of Confederate, Immediacy of Communication, and Time Interval	48
4 Duration of smile as a function of Sex of Confederate, Immediacy of Communication, and Time Interval	49
5 Number of words spoken as a function of Sex of Confederate, Immediacy of Communication, and Time Interval	50
6 Statements of Initiation as a function of Sex of Confederate, Immediacy of Communication, and Time Interval	51
7 Eye Contact as a function of Sex of Confederate and Immediacy of Communication	53



The purpose of this thesis is to develop a conceptual framework for studying the role of communications in the initiation of interactions between strangers, and to conduct an experiment to illustrate the utility of the framework. The conceptual framework will be developed on the basis of integration of existing models of the processes of initial meetings and research on implicit (nonverbal) communication. The need to develop a naturalistic, experimental methodology for studying the role of communications in initial interactions will become apparent from a review of existing research. The initial experiment will be designed to remedy the deficiencies of the existing research.

Communications that accompany our daily interactions with others occur implicitly as nonverbal and paralinguistic signals and cues in addition to the explicit verbal interplay. Recent interest and investigations into dyadic and group interactions have indicated the importance of these implicit communication forms. Watzlawick, et al (1967) elucidated the importance of nonverbal cues in providing feedback and information exchange between persons emphasizing that the process was a continual one and crucial to the meaning of the verbal message. Similarly, Speer (1970) distinguished nonverbal cues as a means by which a person could convey affective information; that is, how he felt emotionally and what he was experiencing. Further evidence acknowledges the importance of the role of nonverbal cues as guidelines for interaction

and in defining communicator relationship. Condon and Ogston (1967) and Kendon (1967) have described nonverbal and paralinguistic techniques that fulfilled the regulatory function of indicating changes in speaker - listener roles.

Implicit communications have been demonstrated to be closely related to simultaneously occurring explicit communications. Argyle (1969) distinguishes five functions or "links" between implicit and explicit communications:

- (a) Mutual attention and responsiveness: Each interactor must signal continuously his attentiveness and responsiveness to the other.
- (b) Channel control: There must be continuous regulation of speaking and listening.
- (c) Interpersonal attitude: Interactors must signal their attitudes and intentions towards the other.
- (d) Illustrations: Gestures accompany speech to illustrate it in various ways.
- (e) Feedback: Speakers need continuous feedback about how their utterances are being received.

A similar classification of implicit behaviors by Ekman and Friesen (1969) includes two additional functions: (a) emblems: referring to the small class of nonverbal acts that can be accurately translated into words, (for example, handshakes, shaking a fist at someone, a smile); and, (b) adaptors: referring to acts that are related to the satisfaction of bodily needs, such as moving into a more comfortable position or scratching.

Clearly, explicit communications need to be carefully considered while researching the functions of implicit

communications. However, there is abundant research evidence which suggests that implicit communications are considerably more important than explicit ones when people are meeting each other for the first time.

Research on the explicit communications which occur during initial meetings consistently shows that the topics are generally nonpersonal and definitely do not include important relationship issues such as each person's perceptions of self vis-a-vis the other (Thibaut and Kelley, 1959, Ch. 5; Levinger and Snoek, 1972; Watzlawick et al., 1967). Hence, such information has to be obtained elsewhere. Usually, implicit communications fulfill that function. Many investigators have dealt specifically with those functions of implicit behaviors that are particularly relevant in defining the developing relationship between communicators, that is, with Argyle's "interpersonal attitude" and "feedback" categories; and similarly with Ekman and Friesen's "affect display" category.

Numerous studies have also focused on the implicit communication of attitude and affect. Mehrabian (1968a, 1968b) investigated the use of posture and position (proxemics) as means by which a communicator conveys the degree of liking towards an addressee. Other studies have also consistently reported the use of proximity as an "instrumental affiliative act" capable of conveying communicator attitude (Resenfeld, 1965; Sommer, 1969; Mehrabian and Ksionzky, 1970). Other implicit cues including head nods, smiles and gesticulations

(Rosenfeld, 1966, 1967), eye contact (Reis and Werner, 1974; Kendon, 1967), facial expressions (Buck, Caul, Miller and Savin, 1972), and body orientation (Mehrabian, 1967) were found to be relevant variables in the communication of attitude and affect.

Research relevant to Argyle's "feedback" category is also available. Scheflen (1965), in investigating the role of implicit communication in the patient - therapist interaction, expounds the importance of "kinesic monitoring" (the observation of implicit cues) and the role it plays in activity regulation in therapy. Additional research by Ekman and Friesen (1968) has illustrated the extensive use of nonverbal cues in therapy, thus supporting Scheflen's findings regarding the significance of nonverbal communication in therapeutic interactions. Furthermore, Scheflen (1963) has examined the use of strategies by psychiatrists incorporating nonverbal cues in defining a desired therapist - client relationship.

Clearly, implicit communications can provide the necessary "affective" and "feedback" information needed by strangers in their initial meetings. Before reviewing the specific research findings which appear most relevant to understanding the role of implicit communications in initial meetings, we will consider two broader conceptualizations of what goes on during such meetings. These are Argyle's (1967, 1969) Equilibrium Process and Altman and Taylor's (1973) Social Penetration Model.



# I. Equilibrium process model:

In describing a social interaction, Argyle states:

"two people may meet, each with his own social drives and his own social techniques, but there will be no proper interaction unless the two sets of techniques mesh together in a synchronized and coordinated manner." (In Mortensen, 1973, pg. 247.)

Thus, the developing relationship draws on each of the participant's idiosyncratic social skills to develop a coordinated interaction. This coordination procedure is referred to by Argyle as the equilibrium process. Specifically, in this process:

"Subject A will have his own characteristic set of social techniques; but these will vary to some extent according to the age, sex and personality of the other, of B. A will use one set of techniques for one group of people, and a somewhat different set for another group. Before he can select one style rather than another, A has to perceive and categorize B. And, of course, while A is categorizing B and preparing to use a particular set of social responses, B is doing exactly the same with regard to A." (In Mortensen, pg. 243.)

The medium by which these social cues and responses are conveyed involves both explicit and implicit communication. Furthermore, the extent to which a communicator can effectively incorporate both modes of communication into an interaction, both as communicator and addressee, is indicative as to the extent of the development of that person's social skills.

Assuming that our participants have the necessary social skills, and thus commanding appropriate use of implicit and

explicit communication, they engage in the "equilibrium process". Argyle specifies eight areas in which synchronization and coordination are essential for the existence of an interaction (in Mortensen, pp. 200-202):

- (1) The content of the interaction: Both participants must agree as to the nature of the interaction. For example, "agreement on the game being played... the topic of conversation or the nature of the activity in other respects."
- (2) Dimensions of the Relationship - I. Role relations: Participants must agree and subscribe to their respective role in the interaction; for example, "if one is a teacher, the other must be the pupil; if one is an interviewer, the other should be an interviewee." The participants "must agree on the definition of the situation and be prepared to play socially defined parts in it."
- (3) Dimensions of the Relationship - II. Intimacy: Participants must either seek a similar level of intimacy or agree to a compromise level. Clearly, participants pursuing opposing degrees of intimacy will find the interaction to be uncomfortable and awkward.
- (4) Dimensions of the Relationship - III. Dominance: The degree to which each participant actively tries to dominate or command the interaction is inversely related to the extent to which "equilibrium" will be established.
- (5) Timing of Speech: "There must be smooth synchronising of speech in a conversation, so that most of the time is occupied and there are no long silences, and there are also no interruptions."
- (6) Sequences of Behavior: Responses and initiations by participants must be sequentially appropriate.
- (7) Nonverbal Responsiveness: Participants should engage in the appropriate implicit communication that will support the interaction and maintain the equilibrium.

- (8) Emotional Tone: "While interaction can proceed between two people who are in different emotional states, this is not a stable state of affairs; probably interaction will cease or a change of emotional state will take place."  
(Mortenson, pg. 202.)

Having established equilibrium, we now have developed our social interaction; that is, with each participant assuming the role that has evolved for him in the "equilibrium process". More specifically, in Argyle's (1969, pg. 203) terms:

The equilibrium can be described at two different levels of analysis. (1) There are the details of timing, and synchronising of speech, and the accompanying bodily movements. (2) There are also higher-order units such as 'dominance', 'intimacy', and 'role relationship'. A social relationship is usually thought of in terms of the second level, but it is negotiated by moves at the first level.

It is important to note that although both implicit and explicit communication are involved in the coordination of the eight areas mentioned, the coordination "decisions" are usually done implicitly. That is, people rarely "metacommunicate" (Watzlawick, et al., 1967) about how they are defining their relationship. The explicit communication is typically not about these eight content areas. Rather it is about some nonpersonal topic (i.e., some aspect of area one) and simply provides a context in which implicit communications about the other seven areas can occur. Thus, the strangers can obtain information about each other without having to risk committing themselves explicitly to a definition of the relationship, which might not be reciprocal (CF Dorris, 1972; Schelling, 1960).

## II. Social Penetration Model:

A second model of the developing social interaction has been developed by Altman and Taylor (1973) and is referred to as the "social penetration process". Primarily, Altman and Taylor conceive of the individual as possessing a depth dimension to his personality that is analogous to the layers of an onion. That is, the outside layers of personality are those superficial, non-intimate characteristics of that person's personality, and the inner layers are most basic, enduring and consequently, the more layers of intimate aspects Participant A penetrated through social interaction, the better information Participant B has to understand and "relate" to A. Furthermore, Altman and Taylor claim that the initial interaction and immediate subsequent interactions serve to introduce the participants and allow them to decide whether they would like to pursue the relationship. The latter point, the decision as to whether a relationship is worth "perpetuating", is an important component of this model and will be discussed shortly. However, using this model, let us first examine the early stages of the interaction between participants and its role in the developing relationship.

The first encounter between our participants (strangers) involves the exchange of information that allows each person to adjust and orient to the new interaction. This early information is of a superficial nature, revealing only a participants' "non-intimate" layers of personality. At this time, a continual process is begun in which both persons



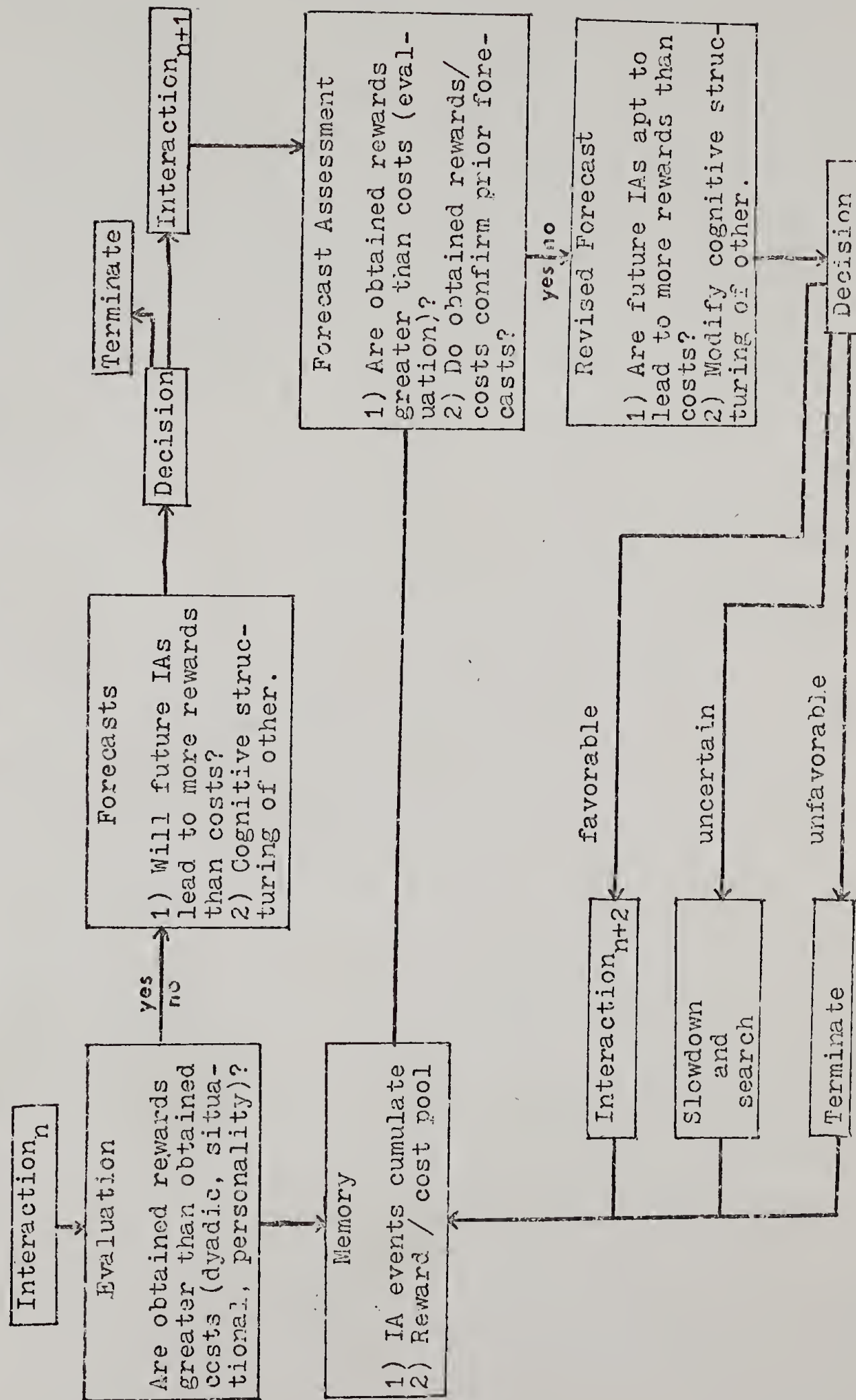
receive information about the other and proceed to make evaluations of the interaction and forecasts to future interactions. As the result of this assessment process, both participants can provide further information to the other as to whether he finds the interaction a desirable one and one worth pursuing. (See FIGURE 1)

Altman and Taylor offer three questions that are addressed in the evaluation process:

- (1) "What rewards and costs were obtained in the interaction?" Specifically, this question calls for the participant to be wary of the rewards and costs (pros and cons) within a particular exchange. A similar process of evaluation is offered by Thibaut and Kelley (1959) in which assessment of a particular interaction is based on a satisfaction - dissatisfaction continuum.
- (2) "Were the immediate rewards greater than the costs?" In evaluating the interaction, the participant sums up and compares the positive and negative aspects (experiences) of that interaction. This information then becomes a basis for deciding to what extent a particular interaction or relationship was satisfying and desirable.
- (3) "Will it be rewarding to interact with this person in the future?" Having tabulated the data available on a specific interaction or set of interactions, the participant can now forecast whether or not a future interaction is desirable. A rewards - cost ratio (Thibaut and Kelley, 1959) is functional in developing a forecast for future interaction. Using this model, the participant gauges "the balance of positive and negative experiences in a social relationship (Altman and Taylor, pg. 32)." Having completed this, he can now offer a prediction of the outcomes of future interactions based on a ratio of expected rewards relative to costs.

It is important to note that Altman and Taylor's "evaluation process" occurs after the interaction; that is, after the

FIGURE 1  
Interpersonal reward / cost aspect of social penetration process



participants have separated. Furthermore, the evaluation process is a cognitive process in which participant A's observations of B's implicit and explicit behaviors form the basis for "higher-order" units (Argyle, 1969) upon which the evaluations are based. Thus, for example, A's evaluation of B is not made in terms of B's implicit behaviors - i.e., "Boy, B sure had great eye contact and maintained a positive body position."; but rather, the integration of these implicit cues forms the basis for "higher-order" evaluations - i.e., "That guy, B, really was very friendly and nice to be with." Thus, it is important to emphasize that implicit communications underlie the "higher-order" units used in evaluation, although people don't typically think (that is, evaluate) in terms of implicit communications.

Together Argyle's social skills model and Altman and Taylor's social penetration model suggest several important points about initial encounters: (1) Individuals begin the process of establishing "equilibrium" in many areas immediately, (2) This process is done via implicit communications relevant to various areas simultaneously, (3) Evaluations of the initial meeting and decisions about future meetings are based upon "higher-order" inferences derived, without awareness, from the implicit behaviors which occurred during the interaction.

- (4) Inferences are based upon a combination of many cues available from the communications, the speakers, and the context.

With these points in mind, we may review the existing research on implicit communications relevant to initial interactions. The existing literature concerning laboratory research on implicit communication can be divided into four main groupings which represent the extremes of two continuums; Perceived Continuity and Degree of Structure; Structured Interactions with no Continuity, Unstructured Interactions with no Continuity, Structured Interactions with Continuity and Unstructured Interactions with Continuity. The division, continuity - no continuity, is based on the subject's own perception of whether the interaction that he is engaging in is a terminal one or one which might be pursued further. This perception is typically related to the subject's perception of the study, experiments in which no explicit recognition of the possibility of continuity is given are seen as low on continuity. Such a difference between the two conditions would have a direct effect on the goals and strategies established by a subject regarding the interaction.

The second division, structured and unstructured interactions, refers to the extent to which the design of the research structures or constrains the use of implicit and explicit communications. In a highly unstructured study, both communicators would determine for themselves the extent to which they would attend to or communicate with various implicit or explicit channels. In a highly structured study, the participants would be required to attend to and communicate



by means of specific channels selected for purposes of experimental control, at a pace determined by the experimenter. An example of each type of experiment follows. It is important to emphasize the point that the four studies to be cited are representative of the bulk of laboratory research that has been done. As will become apparent, it is necessary to raise questions regarding the external validity (Campbell, 1957) of the majority of these experiments.

Experiment I - Structured with No Continuity: Rosenfeld (1966) investigating "approval seeking and approval inducing functions of verbal and nonverbal responses in the dyad", instructed one of a pair of subjects to either seek approval or avoid approval from a second, "naive" subject. The subject was given a set of instructions for each category and told to behave in a manner congruent with that category. Here is a brief example of the instructions given for the approval seeking category: "Imagine that she...(the naive subject)... is a person toward whom you are immediately attracted. She seems like a very nice person and you want to appear friendly to her. You want her to like you. When you go into the room, we want you to act as you would normally in such a situation...".

The subject was then sent into another room where he would engage in those behaviors that he best felt communicated the condition he was instructed. Observers located in another room noted particular aspects of the instructed subject's behaviors.

In this interaction we have a highly structured encounter between two strangers (subjects). Specifically, the subject's behaviors are pre-determined by experimental design in that he is instructed to act or perform in a certain way. Furthermore, the subject is instructed as to where and when he is to perform his behaviors. Also, the interaction lacks continuity in that the meeting between the two participants is by chance and unlikely to occur again.

Experiment II - Unstructured with No Continuity: Mehrabian (1971) - "Verbal and nonverbal interactions of strangers in a waiting situation." In this experiment, a subject was first administered a test which supposedly was indicative of campus social status. He was then informed of his score (either 2, 5, or 8 on a scale of 10) and a second subject's score (always 5). This completed, the subject and the confederate (the second subject) were asked to wait for approximately two minutes in a particular room prior to filling out more forms thus completing the subject's commitment. The experiment was to study the subject's behavior towards the confederate during the two minute "wait". One of the variables tested was the difference between those behaviors as a function of the subject's "social status" relative to the confederates', that is a score of 2 versus 5 or 8 versus 5. Also, the confederates engaged in behaviors that were predetermined to be either slightly positive or negative in content.

We thus have an interaction that lacks structure on the

part of the subject; he was free to attend to the confederate and respond to the second party as he saw fit, that is, to encode his attitudes towards the confederate. Also, the subject's perception that they were meeting by chance prior to the "real experiment" and the minimal likelihood that such another meeting would take place offered no dimension of continuity to the interaction.

Experiment III - Structured with Continuity: Taylor, Altman and Sorrentino (1969) - "Interpersonal exchange as a function of rewards and costs and situational factors: Expectancy confirmation - disconfirmation." In this experiment 45 sailors participated in a lengthy session, ostensibly with another sailor who was actually a confederate. Ss thought they had been selected for an important Navy program in which pairs of men would live and work together in an undersea capsule for a long period. Each S was told that he and his partner had been assigned to work together, that the partner was in another room, and that they would become acquainted over an intercom system. Subjects interacted verbally with the confederate. Following each self description by the subject, the confederate told about himself in such a way as to create one of our types of interpersonal reward/cost conditions...Following each period, Ss completed various sociometric and expectancy questionnaires." (In Altman and Taylor, 1973, pg. 97.)

The dimension of continuity is present in this study in

that each subject anticipated future interactions with his "partner"; a factor that the study found to be influential on the subject's verbal interactions. As in the Rosenfeld study, the confederate directly manipulated the interaction between himself and the subject so as to adhere to predetermined interpersonal reward/cost conditions. Specifically, no visual cues were available to the subject from the confederate; the confederate made explicit disclosures of "liking and not liking" towards the subject which probably would not occur in real life; and, both the topics of conversation and the timing of interactions were controlled by the experimenter.

Experiment IV - Unstructured with Continuity: Scheflen (1963) - "Communication and regulation in Psychotherapy."

The primary focus of this research was to monitor and identify the mechanisms (behaviors) by which a therapist and client regulated the interaction between them. The study evolved from findings in a much broader investigation using context analysis to study the structure of psychotherapy.

"the author and his coworkers noticed communicational sequences which appeared to have a function which had not previously been emphasized - the function of regulation."

The study was based upon the observations made from numerous therapy sessions and involved focusing on those communications that serve to regulate interactions. The following excerpt is taken from one such psychotherapy session:

"On reexamination of the sequences, however, it was noticed that the girl's inattentiveness to the doctor followed periods in which he had been inattentive to her - for example, looking away from her. Her with-



drawal had the effect of prompting him to attend to her in the form of forcing her to be attentive. This mutual behavior regulated remoteness between them. Yet, the doctor's remoteness followed periods in which she was overtly flirtatious with him or when she sat close to him or cuddled up against his shoulder. Remoteness then regulated overcloseness." (Pg. 130.)

Thus, this study concerned itself with interactions that offered continuity, in that future interactions (sessions) were extremely likely. Furthermore, structure as imposed by the design of the study was virtually non-existent. There were no confederates, no predetermined manipulations and all interactions were freely occurring via channels selected by the subjects, although related to the context of the psychotherapy session.

If we consider the usefulness of the existing implicit communications research in understanding the processes of initial meetings, a number of limitations are immediately evident. First, the nature of the laboratory experiments actually tend to limit the subject's behavior. Depending on the specific design of the research, the following statements hold true. (1) The subject is forced to attend to the other participants in the interaction. (2) The subject is forced to interact with others or perform his assigned behaviors. (3) He is forced to accommodate his behaviors to the guidelines and timing set by the experimenter. (4) The subject is often asked to cognitively structure his laboratory interactions so as to parallel similar interactions occurring

naturally, despite the contextually differing motivations, goals, and outcomes of these interactions.

Second, design constraints, usually on the confederate's behaviors, can detract from the external validity of the studies. The specific dependent and independent measures in the studies have dealt with isolated components of communication, i.e., eye contact and visual behavior (Exline et al., 1965; Kendon, 1967), posture, orientation and interpersonal distance (Mehrabian, 1971; Mehrabian, 1968b), facial and gestural expressions (Resenfeld, 1966; Buck et al., 1972), and verbal immediacy (Wiener and Mehrabian, 1968). The contention here is that these studies have neglected the importance of the totality of the communication, that is, the need still exists for experimentation into multi-modelity communication, incorporating various aspects of both verbal and nonverbal communication. Similarly, the intensity with which a person communicates a particular attitude or affiliative response is often situation-specific, both environmentally and interpersonally. It is, therefore, questionable, given the characteristics of a laboratory setting, if one can infer from the results of these studies, that similar results would be found in other contexts.

A third criticism focuses on the external validity of the contrived laboratory situation (interaction), itself. Some of the major contentions follow: (1) Much of the existing research explores dyadic interactions, disregarding

three party (or more) interactions, or interactions in crowded environments. (2) Generally, laboratory studies offer no continuity of relationship to the subjects involved, thus disregarding an important source of motivation in freely occurring interactions. (3) Natural variables such as sex of participants, dress, social status and age are often minimized in laboratory studies. Many of these experiments involve same-sex dyads, members of similar age groups and similar social status.

The current study will attempt to ameliorate these limitations of the existing research by studying implicit communication among strangers meeting "by chance" in the course of their normal daily lives. Thus, subjects will anticipate that the continuity of their interaction is up to them to decide and that they will be free to use whatever communications (implicit and explicit) they choose. This study will differ from the existing "Unstructured with Continuity" research in three important ways: (1) It will be an experiment rather than a correlational study (one "stranger" will be a carefully trained confederate); (2) The interactants will be peers who are meeting "by chance" from the subject's perspective (in contrast to existing clinical studies in which the meetings were pre-arranged with specific purpose - i.e., therapy, and clear status differences existed - i.e., therapist and client). In short, there will be more initial ambiguity here regarding the nature of the relationship which may develop than in existing research. (3) The interaction between the confederate

and stranger will be audiotaped and carefully observed by trained observers for several minutes, thus providing rich experimental data.

These features of the experiment will allow us to provide experimental evidence relative to three important aspects of initial meetings which have not been addressed by existing research.

(1) Time to occurrence of the interaction: The current study investigates time or rather, the elapsed time, as a variable. The question addressed concerns itself with identifying the amount of time and communication by the confederate necessary to elicit implicit and explicit responses from the subject in a naturally occurring interaction. While this information is available from several studies by Mehrabian (1972, Chap. 8), the external validity of such studies is questionable.

(2) Time to extinction of the interaction: Argyle (1967) indicated that participants tolerated varying periods of silence before experiencing embarrassment, depending on the situation and the general tempo of the interaction. This study pursues the point further and investigates the amount of time that it takes for extinction processes to enter into an interaction. Thus, given similar amounts of input and times of interaction by the confederate, the question is raised as to what point in time the interaction ceases to exist following cessation of active confederate involvement. This



measure will provide a strong indication of the effectiveness of the confederate's communications in establishing relationship with a complete stranger; in short, a test of the external validity of laboratory findings.

(3) Interrelation of implicit behaviors: Just how do differing nonverbal cues interrelate with each other? Do correlations exist between nonverbal cues such that the individual characteristics of each might be altered if used in combination with others? These questions generally have been overlooked in earlier experimental studies, whose foci have been on separate components of implicit communication and whose analyses have not attempted to establish such intermingling of functions. While it is clear that communicative behaviors are interrelated (eg. Mehrabian, 1972, Chap. 8; Keiser and Altman, 1974), these interrelations have not been experimentally assessed in a realistic, initial meeting between strangers.

There are a number of possible independent variables which could be investigated in the present research. On the basis of relevant research and an extensive pilot study, we have chosen to manipulate two: (1) the positivity or "immediacy" of the confederate's communications, and (2) the sex of the confederate (given that the subject is always of the opposite sex).

Mehrabian (1972) uses the term "immediacy" to summarize existing research on the role of implicit and explicit behaviors

in communicating and eliciting affective responses. The higher the level of immediacy, the greater physical proximity and/or greater mutual sensory stimulation between the communicator and the addressee (pp. 26). His summary of existing research (Mehrabian, 1972) indicated that among college aged strangers, communications of high immediacy are perceived as indicating liking or positive evaluation and are responded to in kind. Although none of these studies has looked at mixed-sex meetings between strangers, the consistency of the findings suggests that they should replicate in the present study. Thus, we expect that higher levels of immediacy on the part of the confederate will elicit higher levels of immediacy from the subject. Specifically, two levels of confederate immediacy, positive and neutral, will be manipulated (see Methods). Positive confederate immediacy is expected to elicit greater subject immediacy than is neutral confederate immediacy.

The subject's level of immediacy will be measured in terms of implicit and explicit communication variables, which have been used in existing studies (i.e., eye contact, body orientation, torso lean, smiling, amount of speech, and initiations of interaction - see Methods for details).

Our second hypothesis is that, holding confederate's level of immediacy constant, female confederates will elicit greater immediacy from male subjects, than will male confederates from the female subjects. The reasoning behind this hypothesis

is as follows. From Argyle's Equilibrium model (1969), we may expect that the subject will perceive (and respond to) the confederate's behavior in terms of the context in which it is occurring. For both types of dyads being investigated (one with male confederate and the other with female confederate), the context will be an initial meeting between opposite sex, college students. Since the behaviors of the female and male confederates will be virtually identical within immediacy levels, the question to consider is whether such behavior being initiated by a female toward a male stranger will be perceived as having different meaning than if the behavior were initiated by a male confederate towards a female subject (stranger). Existing sex role stereotypes among college students (Broverman et al., 1968) as well as research on the communicative behaviors of female students in the presence of male students (eg., Aries, 1974; Bernard, 1973; Mehrabian, 1969) consistently indicates that males are expected to be the initiators of such encounters, while the female's expected role is that of responder. More to the point, a study of "pickup" behaviors in a student bar conducted concurrently with the present study at the same university, has to focus solely on female subject's responses to a male confederate's "pick up" attempts. On the basis of consistent feedback from twelve students (both sexes) who were consulted in designing the study, it was indicated that a female confederate would feel too awkward in trying to "pick up" a male student

(Dorris et al., 1974). Thus, we anticipate that the behavior of the female confederate in initiating an interaction with a male subject will be perceived as more "out of role" than that of the male confederate. That is, the female's initiation will be seen as "unusual" or "unexpected" relative to the male confederate's. Research on differences in the perception of "in role" and "out of role" behavior clearly indicates that the female confederate's "out of role" behavior will be perceived as more indicative of her intentions towards the specific males than will be the male confederate's "in role" behavior towards the female subject.

Given these perceptions we may expect: (1) that in the positive immediacy condition, that the female confederate will be responded to with greater immediacy than if to male confederates, and (2) a similar trend will occur in the neutral immediacy condition. Specifically, the "out of role" behavior of the female will outweigh the content of the message (condition). Thus, we expect there will be a main effect such that female confederates will elicit more immediate response from subjects overall.



## METHOD

### Subjects

Sixty subjects, thirty male and thirty female, were used in this study. All subjects were randomly chosen from college-aged (approximately 18 to 30 years of age) patrons in the Campus Coffee Shop at the University of Massachusetts. For the purposes of experimental design, it was necessary to select only those persons that were seated by themselves. In addition, subjects were chosen so as to conform to the mixed-sex conditions of this study. Potential subjects that met the aforementioned criteria were exempted from the study in cases where the person was busily engaged in reading and studying in which experimental intervention would have negative consequence. Data from several subjects have to be discarded for the following reasons: Intervention by a third party (i.e., a friend, another patron); termination of the interaction prior to the completion of the critical observation period (the first three minutes of interaction). Potential subjects became active in the study when the observed interaction began; that is, at the point when the confederate joined the subject at the table.

### Confederates

Six confederates, three male and three female, were used in this study. All confederates volunteered for the experiment and were chosen from among a group of advanced psychology majors, all undergraduates at the University of Massachusetts.

Criteria for selection of confederates included that volunteers express and demonstrated comfort and skill in social interactions, and that volunteers were considered to be physically attractive, a characteristic demonstrated to be important in initial encounters (Walster, et al., 1966). Initially, the confederates were instructed to review relevant literature on the role of implicit and explicit communication. Next, the confederates observed and participated in interactions in the Coffee Shop, gathering information about the nature of verbal and nonverbal communication in that environment. With this information, scenarios for confederate behaviors were developed and rehearsed. Confederates practiced and rehearsed scenarios with the use of Video-tape equipment to develop accurate timing and execution of their "acts". Further practice was carried on in the Coffee Shop. Post-experimental analysis of the confederate's performances indicated high levels of reliability; that all confederates executed the scenarios both accurately and in statistically similar performances separate reliability measures were taken for each confederate, individually - for the two sex groupings - and, for the overall reliability across immediacy conditions. (See Table 1.)

Since all confederates also served as observers, time was spent in developing and training in observation techniques. Previous experience in the Coffee Shop served as the basis for developing an accurate and efficient observational pro-

Table 1

Inter-rater reliability coefficients for  
 confederate performance (encoding)  
 (ANOVA N=6)

<u>Dependent Variable</u>	<u>Reliability</u>
Eye contact	.92
Duration of smile	.89
Statements of initiation	.95
Shoulder orientation *	*
Torso lean *	*

\* NOTE. - Since these were static variables such that only one observation was made per subject, it was not possible to calculate inter-rater reliabilities in the same manner as for the other variables. There was, however, total agreement among raters regarding the values of these variables.

cedure that would not detract from the normal routines of Coffee Shop activity - (see APPENDIX A). Video tape equipment was employed to help establish accuracy and reliability in timing and counting methods used by the confederates. Just prior to the actual fieldwork, measures were taken to establish reliability following a two month training period. Analysis of this data yielded high levels of reliability between observers. (See Table 2.)

### Procedure

Upon arrival at the Coffee Shop, the experimental team, comprised of three confederates/observers and an experimenter, situated itself at a table that was centrally located and offered the best available observable area. In addition to the necessary research materials, assorted paraphernalia such as books, bookbags and campus newspapers were used to avoid suspicion towards the experimenter and two observers who remained at the table. The third observer, now the confederate for the next observation, left the Coffee Shop and sat in a lounge area just outside the doors of the Coffee Shop. From this location, the confederate could see the observation team and the experimenter without being noticed from the Shop.

The confederate remained in the lounge area until signaled by the experimenter that a subject was available. During this period, the confederate, speaking into a tape recorder concealed in a bookbag that he/she carried, coded the number of the observation and the experimental condition (scenario) that

Table 2

Inter-rater reliability coefficients for  
observations (decoding)  
(ANOVA N=6)

<u>Dependent Variables</u>	<u>Reliability</u>
Eye Contact	.95
Duration of Smile	.90
Torso Lean	.99
Shoulder Orientation	.99



was to be performed. The confederate now awaited the signal from the experimenter.

Simultaneously, the experimenter and observers, while waiting for or in between subjects, filled out the necessary information on the observation data sheets. The experimenter then assigned the subject to one observer and the confederate to the other for observation. At this point, all preparations were completed and all that remained was to wait for a subject.

As mentioned earlier, the necessary criteria needed to qualify a person as a subject were: (1) That the person be college-aged, approximately 18 to 30 years of age; (2) that the person be seated alone at a table; (3) that the person was not busily engaged in reading or studying, and (4) that the sex of the subject was opposite that of the waiting confederate. When all these criteria were met, the experimenter signaled the confederate that a subject was available. The signal was arranged ahead of time and usually consisted of the experimenter scratching his head, yawning or some other similar behavior.

On this cue, the confederate switched on the tape recorder and entered the Coffee Shop. First, the confederate went to the serving area of the shop where he/she purchased either a cup of coffee or Coke. While paying for the beverage, the confederate perused the seated patrons in the Coffee Shop to spot the subject. Having spotted the subject, the confederate moved to his/her table and asked if could sit there also,

with specific wording dependent on the experimental condition that he/she was performing. Upon taking his/her seat, the confederate then set the bag, concealing the recorder, between himself and the subject.

This first verbalization by the confederate was the cue to the observers and the experimenter that the interaction had begun. Thus, beginning with this cue, the experimenter, functioning as timer, would indicate to the observers when each fifteen second time period had elapsed. On his signal, the observers would quickly record their respective observations in the appropriate time block on their data sheets.

This procedure continued until the confederate had completed his scenario and allowed enough time for the subject to respond. After three minutes and fifteen seconds, if no interaction had taken place, the confederate excused himself from the table and indicated that he/she had spotted some friends across the room. The confederate then moved over to the observers and experimenter, who were busy completing their data forms.

In the event that conversation was continuing on at the three minute and fifteen second mark, the confederate remained in the interaction acknowledging the subject's verbalizations but not initiating further discussion himself. This was continued until such time that it was comfortable for the confederate to excuse himself. Upon returning to the table with the observers and experimenter, the confederate sat down

and began preparing himself to become one of the observers for the next observation. Similarly, one of the observers then left the table to take his position in the lounge area outside the Coffee Shop, thus becoming the next confederate.

### Experimental Conditions

This experiment was designed in a 2 x 2 matrix in which female and male confederates performed in either a positive or neutral immediacy condition. Scenarios for each condition were identical across the sex of confederate dimension. Thus, the male and female confederates performed the same scenarios for each of the two different conditions. Discussion of both positive and neutral immediacy scenarios will be in two parts, first, the explicit portion and then the implicit portion of the communication.

### Dependent Variables

Six important communicational cues were selected for use on the basis of the existing research literature and a pilot study conducted in the same setting. Before defining the content of two experimental immediacy conditions, a brief discussion and an explanation concerning each cue, including both explicit and implicit cues, follows.

### Interpersonal Seating Proximity

Existing studies have consistently reported the use of interpersonal proximity as an "instrumental affiliative act" capable of conveying communicator attitudes (Rosenfeld, 1965; Somner, 1969; Mehrabian and Ksiozky, 1970). Results have



indicated that smaller distances between communicators or equal status corresponded to the conveyance of greater positive attitude towards the latter, as long as violations of personal space to not occur.

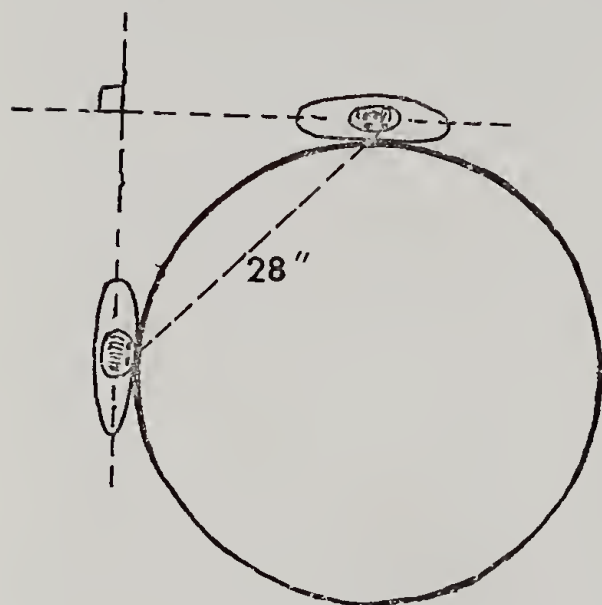
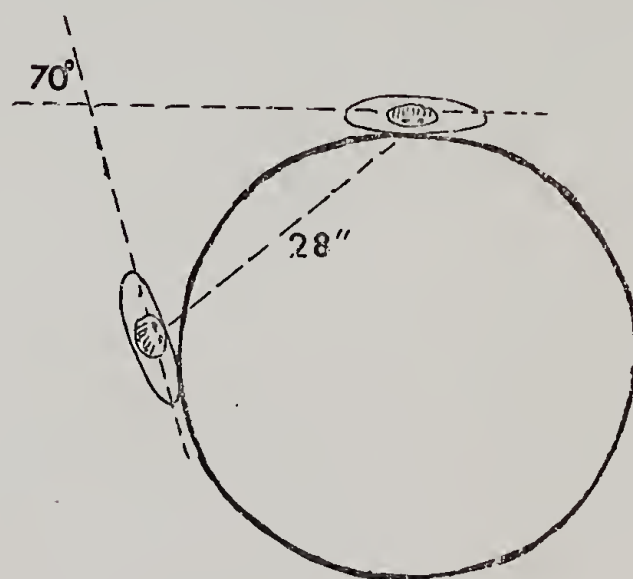
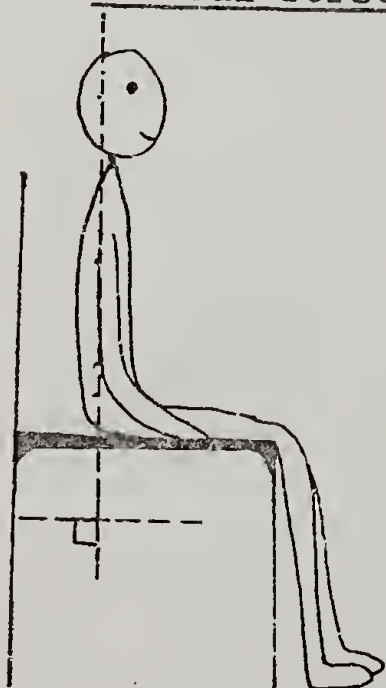
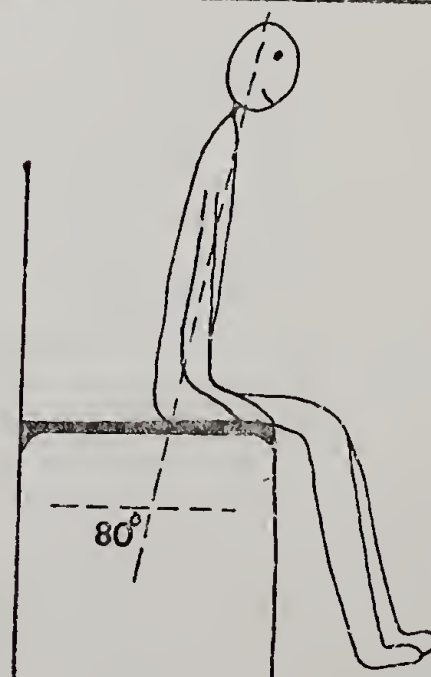
Among college-age strangers, research suggests that an appropriate sitting arrangement for the present study would be a neutral seating proximity. Confederates sat in relation to the subjects so as to allow space for another chair between them (see Figure 2). Specifically, if both persons would be sitting with their shoulders squared to the center of the table, their shoulders would then be perpendicular to each other. Sommer (1969) described this arrangement as one used by "students working separately" as differentiated from students competing and students conversing-cooperating. A similar arrangement was used by Rosenfeld (1966) in studying expressive behaviors such that "seating distance was... approximately halfway between the average chosen by subjects who had attempted to gain approval...and subjects who had attempted to avoid such outcomes."

### Eye Contact

Visual interaction and its function as a non-verbal cue has been the subject of extensive research. One of the findings of these investigations most relevant to this study is the role eye contact plays in transmitting communicator attitude. Studies by Mehrabian (1969), Mehrabian and Kzionsky (1970), and Exline, et al. (1965) have found that increased

Figure 2

Shoulder Orientation and Torso Lean  
for Positive and Neutral Immediacy

Neutral Shoulder OrientationPositive Shoulder OrientationNeutral Torso LeanPositive Torso Lean

eye contact between correspondents was generally indicative of greater positive attitude. Conversely, decreasing degrees of eye contact were associated with neutral and/or negative attitude.

Exline, Gray and Schuette (1965) noted a sex difference effect for eye contact. Specifically, this study indicated that females, characteristically more positive in their interpersonal attitudes, engaged in greater eye contact. Similar findings were made by Mehrabian (1971). However, it must be noted that the bulk of this research investigated same-sex dyadic interactions.

Thus, the importance of eye contact as an indicator of social accessibility (Kendon, 1967) coupled with its flexibility for experimental manipulation (i.e., positive versus neutral attitude) establishes this non-verbal cue as an important design variable.

### Shoulder Orientation

Shoulder (body) orientation is a measure of the degree to which a communicator's shoulders are oriented towards the addressee (Mehrabian, 1969). Specifically, if an imaginary plane is drawn through the shoulders of the communicator, the angle formed with a similar plane drawn through the addressee's shoulders provides us with an empirical measure of the degree of shoulder orientation between the two.

Research results suggest that "directness of orientation . . . reflect(s) the degree of communicator attitude toward

the addressee." (Mehrabian, 1968). That is, the smaller the angle of orientation between the correspondents, the more positive the attitude of the communicator. The converse of this relationship is also true, that is, the greater the angle of orientation, the more negative the attitude of the communicator. Perpendicular orientation is associated with neutral attitude (Rosenfeld, 1965).

### Torso Lean

The degree to which a communicator leans, i.e. forward lean, upright position, backward lean, is termed torso lean. James (1932) first indicated that a correlation existed between torso lean and communicator attitude. Later research (Mehrabian, 1968; Mehrabian and Williams, 1969) supported these earlier findings and offered more detailed analysis of the correlation.

Specifically, Mehrabian found that for seated communicators, a forward torso lean conveyed a positive attitude and that a backward lean communicated a more negative attitude. Neutral attitude, that is, ambivalence towards the addressee, would then be defined as the transition between forward and backward lean, i.e. an upright posture.

Two important characteristics that ascertained the choice of torso lean as an experimental variable were: (1) the ease with which the two postural cues in our experimental conditions (i.e. positive inferred by forward lean and neutral conveyed by upright position) could be distinguished for



observation and encoding purposes, and (2) the ease of effecting these manipulations in a naturalistic setting.

### Smiles

Rosenfeld (1967) in investigating the non-verbal reciprocation of approval, found that smiles (smiling) served a major role in differentiating between conditions of approval and disapproval as conveyed from the communicator to the addressee. Specifically, the reported relationship was that smiles occurred much more frequently in approval conditions and rarely in the disapproval and non-responsive conditions.

In analyzing the results of several experiments focusing on the correlation between the frequency of smiles and communicating approval, Rosenfeld concluded:

"... Assuming that smiles are signs of approval, as well as ways of attempting to induce approving responses in others, reciprocation can be interpreted as an indication of their effectiveness as instrumental affiliative behaviors." (1966, p. 69)

Reasons for incorporating smiles as a design variable were similar to those cited for torso lean. In addition, because of the common occurrence of smiles in our naturalistic setting, it was almost necessary to introduce smiles as an independent variable, thus allowing us to control for its use as a non-verbal medium by confederates.

Results from a pilot study made it apparent that non-verbal cues alone were insufficient to engage the subject in interaction. To facilitate the opportunity for dialogue in our interaction, it was necessary to carefully coordinate



verbal passages with our non-verbal cues, while maintaining our conditions of positive and neutral immediacy. As was the case with choosing appropriate non-verbal behaviors, the choice of verbal statements was based upon (1) flexibility, so as to allow for experimental manipulation, (2) a substantiated means by which to score verbal dialogue along a positive-neutral dimension regarding the relationship between the communicators, and (3) their appropriateness in the context of the experimental setting.

#### Verbal Immediacy and Non-immediacy

An appropriate means by which to meet the criteria mentioned earlier was to incorporate Mehrabian's "immediacy and non-immediacy" categories into the study (Mehrabian, 1966; Mehrabian, 1968). Verbal immediacy refers to the manner and extent to which linguistic components "such as pronouns, tense or kinds of symbols (words)" reflect or encourage a closer interaction.

Specifically, immediacy of speech is defined as "the degree of directness and intensity of interaction between a speaker and the object person he speaks about" (Mehrabian, 1968, p. 22). Thus, for example, consider the following two questions, "Can I sit here?" and "Do you mind if I join you?" The latter question has a more immediate reference to the object (i.e. the person of his inquiry), and encourage a closer interaction with that person.

Furthermore, immediacy is a "method of ...analysis ...for the reference of positive versus negative affective, evaluative, and/or preferential attitudes from speech," (Mehrabian, 1968, p. 22). Using the same examples as above, the question "Do you mind if I join you?" conveys a more immediate message that is to say, it implies a slightly more positive affective communication than does the question "Can I sit here?".

It is important to point out, however, that despite distinct immediacy differences between the two phraseologies, the gist of the communication remains identical, namely - person A wishes to sit at the same table with person B. The unique utility of immediacy categorizations of speech is this flexibility in allowing manipulation of attitude conveyance with only a minimum of alteration of the basic content of the verbalization.

#### Immediacy of Communication

Neutral Immediacy - In the first condition, confederates followed the neutral scenario mentioned earlier in the procedures section (see APPENDIX B). Discussion of both positive and neutral scenarios will be in two parts, first, the explicit portion and then the implicit portion of the communication.

The explicit - verbal communications were worded so as to convey neutral immediacy to the subject. Furthermore, confederate verbalizations were spaced out over time so as

to allow adequate time for responses from the subject. Statements by the subject were expected following confederate verbalizations, to which the confederates were instructed to verbally acknowledge the subject's statement but to avoid making statements of initiation.<sup>1</sup> However, in the event that the subject made statements of initiation, the confederate was instructed to briefly reply to the statement but to avoid making further initiations. Thus, the confederate was limited to the four statements of initiation included on the scenario, but was free to acknowledge any number of statements.

The implicit - nonverbal communications within this condition were based on results from studies described earlier. All nonverbal communications were designed to convey ambivalent (neutral) regard for the subject.<sup>2</sup> Specifically, five modes of nonverbal communication were experimentally controlled for: shoulder orientation, torso lean, eye contact, duration of smile (smiling) and, interpersonal distance.

The first two implicit cues, shoulder orientation and torso lean, are static variables, and as such, were maintained for the duration of the observation once the confederate was seated at the table and situated in the proper position. For shoulder orientation, neutral orientation was established when the confederate was sitting perpendicular to the subject; that is, when the alignment of the confederate's shoulders were at a right angle to the alignment of the subject's shoulders (see Figure 2).

Neutral torso lean was defined as an erect sitting posture in which the confederate was leaning neither forward nor backwards (see Figure 2).

The next two variables, eye contact and duration of smile fluctuated in their frequency during the observation contingent upon the amount of time that the confederate attended to verbalizations by the subject. However, the confederate was instructed to perform one second of eye contact per thirty second observation period. During verbalizations by the subject, the confederate was instructed to maintain minimum eye contact, thus visually attending to the subject only while he spoke. Duration of smile was set at two seconds of smiling per thirty second observation period. In this condition, the confederate was instructed to avoid smiling while attending to the subject's verbalizations.

The remaining implicit mode of communication, interpersonal distance was kept constant over both positive and neutral conditions. The confederate was instructed to sit at a distance approximately one-quarter of the circumference of the table from, and to the right of, the subject. Specifically, in this study, the distance was established at twenty-eight inches, measured from the head of the confederate to the head of the subject (see Figure 2). This particular distance was chosen for three reasons: (1) it was in accord with previous experimental findings, (2) it was a comfortable distance for the confederate and contextually acceptable, and



(3) it was non-threatening to the subject.

### Positive Immediacy

In the positive condition, the scenario was constructed and designed so as to convey positive attitude or affiliation towards the subject (see APPENDIX C). The basic format of both the positive and neutral scenarios was identical in terms of the amount of confederate input, explicit and implicit; the timing of confederate input, and; the guidelines for confederate response to initiations made by the subject.

The explicit - verbal communications were worded and phrased so as to convey greater immediacy, that is, that the confederate was more verbally affiliative to the subject than in the neutral condition. This, statements by the confederate were more immediate (eg., the more immediate - "Do you mind if I join you?" as opposed to - "Can I sit here?" in the neutral condition, and the more immediate - "They serve us sweet Coke here." as opposed to - "They served me a sweet Coke." in the neutral condition).

The implicit - nonverbal modes of communication were based on findings from previous studies and convey positive attitude and liking towards the subject. The four implicit cues described earlier in the neutral condition were used. The differences in the messages conveyed by the implicit cues in the two conditions were substantial, although implementation of the cues in each condition remained subtle enough to maintain similarity between the two scenarios,



thereby reducing variability that could be attributed to factors other than verbal immediacy and content variation of the implicit gestures.

Shoulder orientation and torso lean, the static variables, remained the same for the duration of the observation. In the case of shoulder orientation, positive orientation was established when the confederate sat partially facing the subject. Specifically, the alignment of the confederate's shoulders were approximately at a sixty-five to seventy-five degree angle to the alignment of the subject's shoulders (see Figure 2). Positive torso lean, defined as a slight forward lean, was set such that a lean of approximately ten to twenty degrees forward was considered appropriate (see Figure 2).

As was the case in the neutral condition, frequency of eye contact and duration of smile were partially contingent on the amount of time the confederate attended to interactions initiated by the subject. However, the confederate was instructed to perform one second of eye contact per ten second observation period. This figure was both in accord with previous research findings and suitable in the Coffee Shop setting. Smiling was allowed whenever the confederate was speaking, a condition that was deemed highly appropriate in the setting. Specifically, confederates engaged in two seconds of smiling per fifteen second observation period.

## RESULTS

Analyses of variance were performed on four of the dependent measures: two explicit measures - number of words per fifteen second time interval, and the number of statements of initiation; and two implicit measures - eye contact per fifteen second interval (i.e., the number of seconds the subject looked at the confederate), and duration of smile (number of seconds of smiling) per fifteen second interval. Timing and content of explicit communication was transcribed from the tape recordings of the interactions.

For each dependent measure, a 2 (Sex of Confederate) x 2 (Immediacy) x 13 (Time Intervals) analysis of variance was performed. Error terms for all analyses were based on all the data. For the static dependent variables, torso lean and shoulder orientation, the low frequency of occurrence did not justify an analysis of variance. Instead, a chi square was applied to test the significance of the difference between proportions for the four independent samples (i.e., female confederate - neutral immediacy, female confederate - positive immediacy, male confederate - neutral immediacy, male confederate - positive immediacy) of each dependent variable. Furthermore, chi square tests were performed on between sex, across sex and across mode conditions. Low frequency of occurrence negated time interval effects.

A seventh dependent variable, time to first statement of initiation, employs the one tailed "t" test. Specifically,

the difference between the four independent samples was tested for significance with consideration given to the direction of that difference. That is, the "t" test was performed to determine if female confederates or the positive immediacy condition elicited a statement of initiation in less elapsed time than did male confederates or the neutral immediacy condition.

Finally, a Pearson product - moment correlation coefficient was used to establish the degree of relation between the eye contact, duration of smile, and number of words dependent measures.

#### IMMEDIACY

Tables 3 and 4 show the main effect of immediacy on each of the dependent variables. The results are strongly in accord with expectations. In the positive immediacy condition, the subject engaged in more eye contact ( $\bar{X}_{pos} = 3.38$   $\bar{X}_{neu} = 1.8$ ), smiled more ( $\bar{X}_{pos} = 1.9$   $\bar{X}_{neu} = .78$ ), spoke more often ( $\bar{X}_{pos} = 6.65$   $\bar{X}_{neu} = 3.01$ ), and initiated more discussion ( $\bar{X}_{pos} = .17$   $\bar{X}_{neu} = .09$ ) than in the neutral immediacy condition. Subjects also tended to initiate discussion earlier in the positive immediacy condition. Furthermore, torso lean and shoulder orientation both showed an immediacy effect; that is, that subjects engaged in more immediate lean ( $\chi^2 = 13.07$ , with 1<sup>df</sup>,  $p < .001$ ) and shoulder orientation ( $\chi^2 = 4.04$ , with 1<sup>df</sup>,  $p < .05$ ) in the positive immediacy condition (Table 4). Figures 3, 4, 5 and 6 illustrate the trend of immediacy and sex of confederate

TABLE 3

Main Effects of Immediacy of Communication and Sex of Confederate  
On Dependent Variables\*

Dependent Variable	Immediacy				Sex of Confederate		
	Positive	Neutral	Test		Female	Male	Test
Eye Contact	$\bar{X}=3.37$	$\bar{X}=1.85$	F(1,56) 9.21 P .005		$\bar{X}=3.27$	$\bar{X}=1.95$	F(1,56) 6.95 P .025
Smiling	$\bar{X}=1.97$	$\bar{X}=.777$	F(1,56) 8.41 P .01		$\bar{X}=1.81$	$\bar{X}=.936$	F(1,56) 4.62 P .05
Words per Interval	$\bar{X}=6.65$	$\bar{X}=3.01$	F(1,56) 12.63 P .0001		$\bar{X}=5.86$	$\bar{X}=3.80$	F(1,56) 4.04 P .05
Statements of Initiation	$\bar{X}=.167$	$\bar{X}=.089$	F(1,56) 17.69 P .001		$\bar{X}=.167$	$\bar{X}=.089$	F(1,56) 6.04 P .01
Elapsed Time to 1 <sup>st</sup> Statements of Initiation	$\bar{X}=108.10$	$\bar{X}=120.43$	NS		$\bar{X}=103.77$	$\bar{X}=124.77$	t(58) 1.66 P .05

\*except shoulder orientation and torso lean

Table 4

Frequency of subjects' posture changes  
over intervals

	Torso lean		Shoulder orientation	
	Neutral	Positive	Neutral	Positive
Female	3	13	0	5
Male	5	9	1	1



Figure 3

Eye contact as a function of Sex of Confederate, Immediacy of Communication, and Time Interval

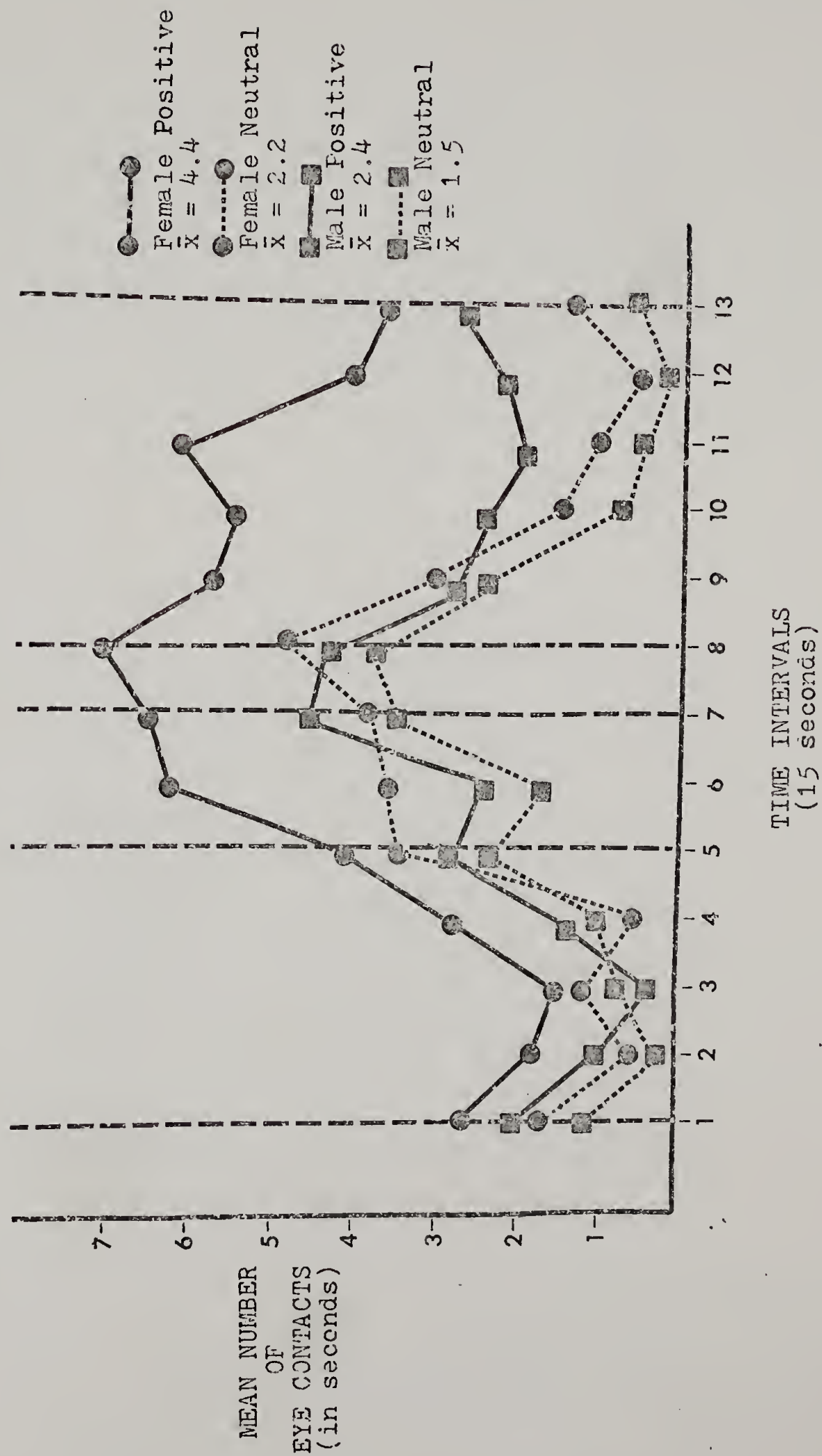


Figure 4

Duration of smile as a function of Sex of Confederate, Immediacy  
of Communication, and Time Interval

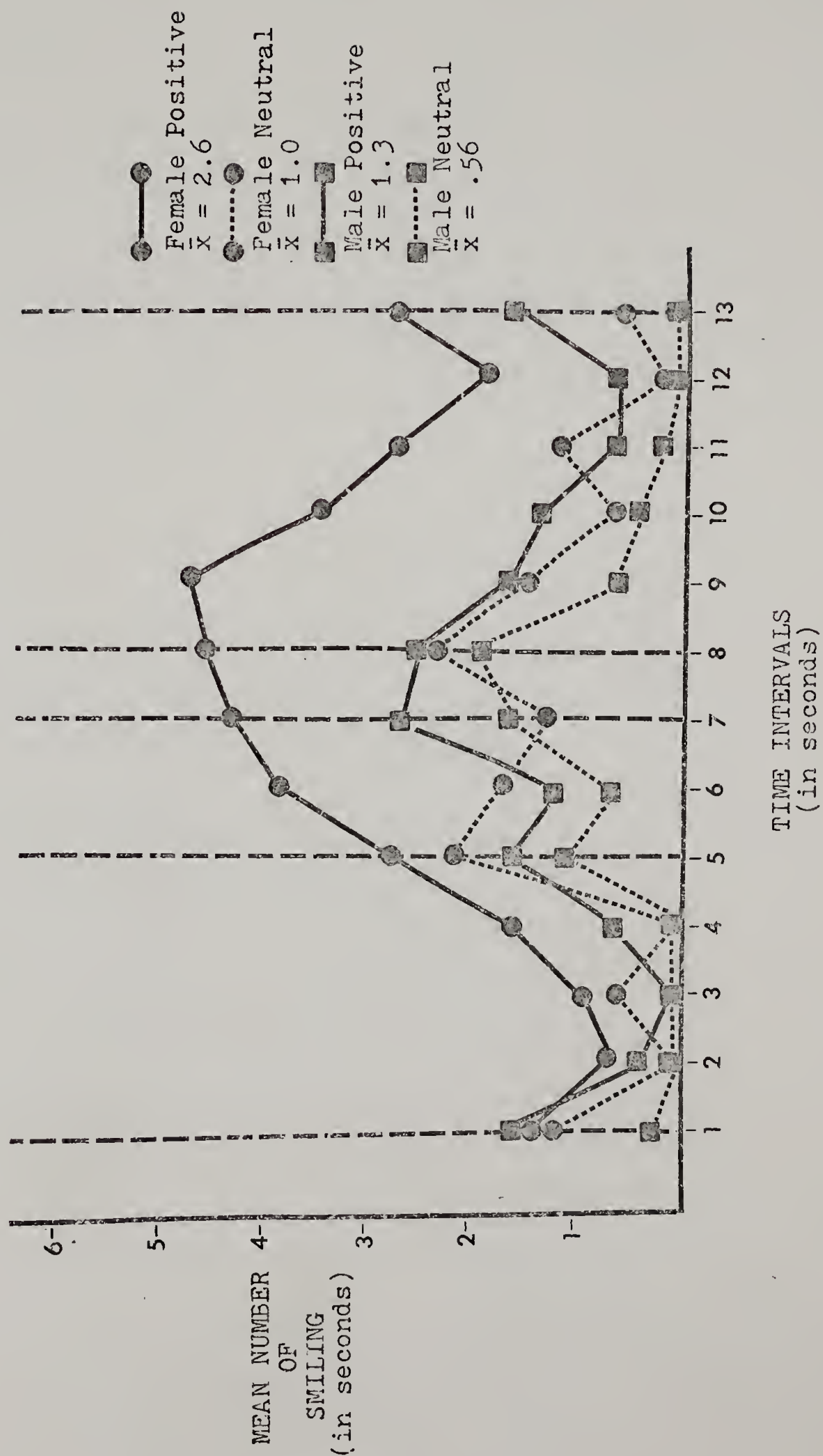


Figure 5

Number of words spoken as a function of Sex of Confederate,  
Immediacy of Communication, and Time Interval

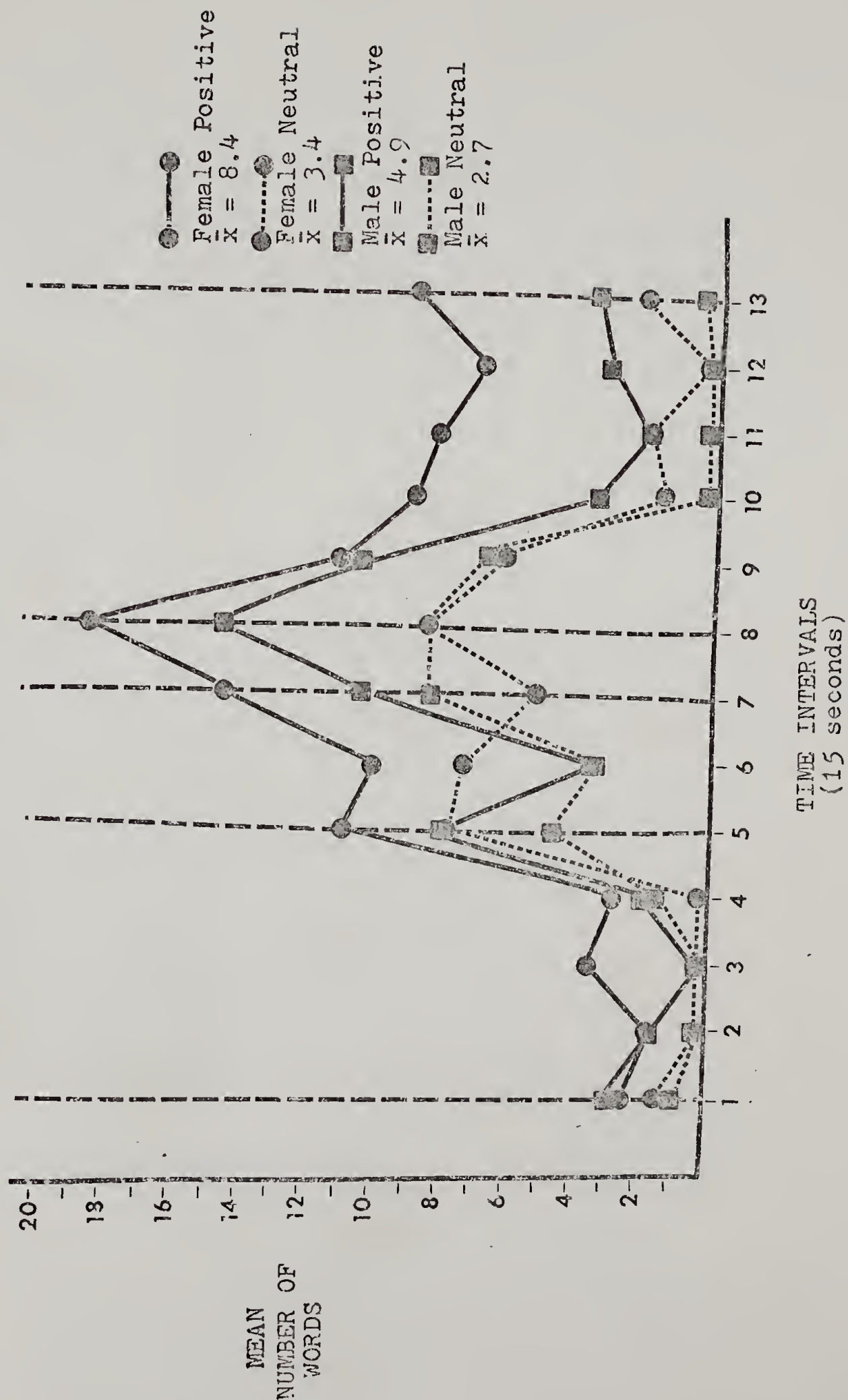
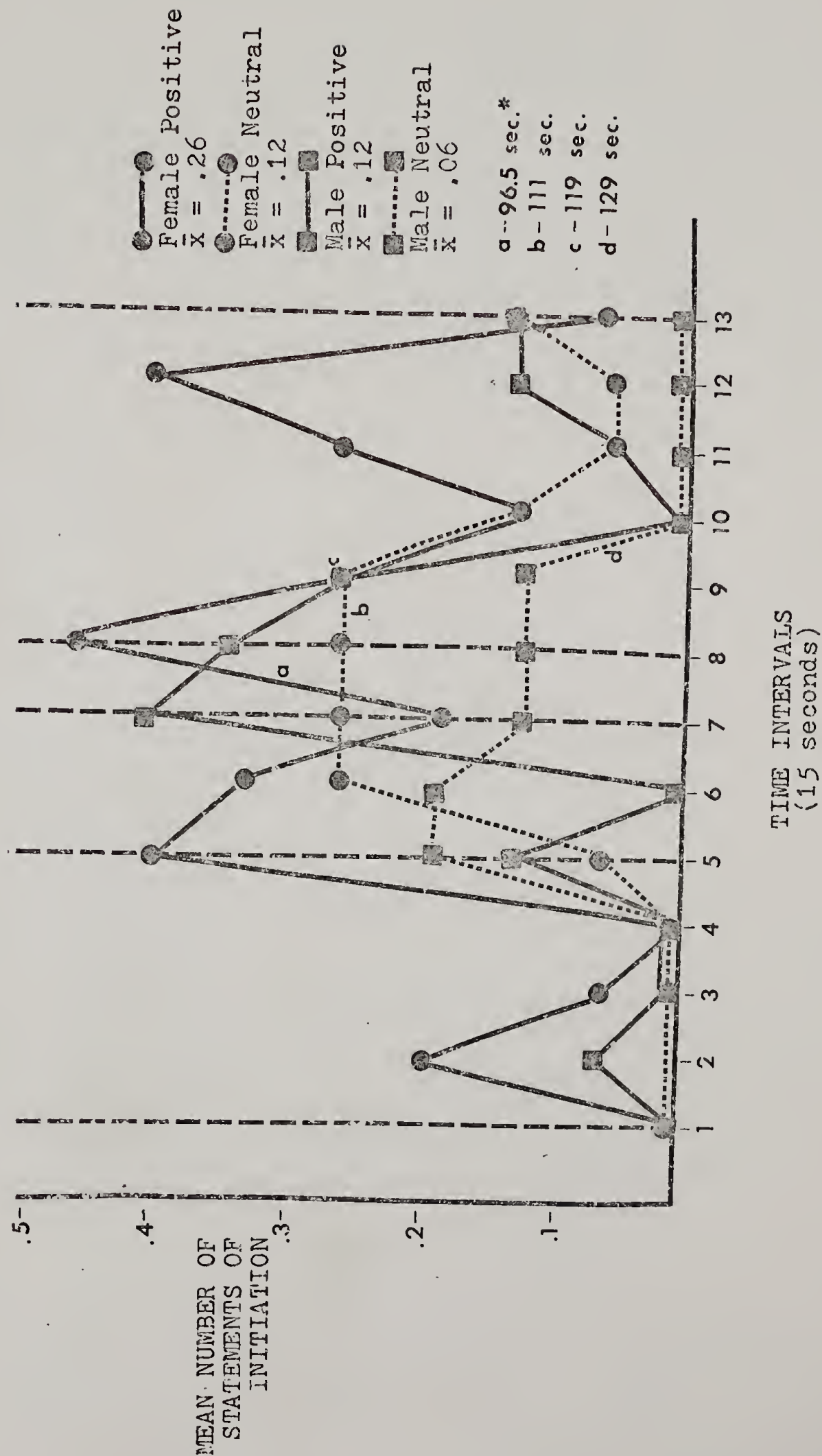


Figure 6

Statements of Initiation as a Function of Sex of Confederate,  
Immediacy of Communication, and Time Interval



\* average time to first statement of initiation.



effects over time intervals for all dependent measures except shoulder orientation and torso lean.

Few significant interactions were obtained. Specifically, for eye contact, a sex of confederate with immediacy interaction ( $p < .05$ ) (Figure 7), and immediacy with time interval interaction ( $p < .025$ ) (Figure 3) occurred. Also, immediacy with sex of confederate interactions occurred for both shoulder orientation ( $\chi^2 = 13.39$ , with 1<sup>df</sup>,  $p < .001$ ). Finally, a three-way interaction, immediacy by sex of confederate by time interval ( $p < .05$ ) was obtained for the number of statements of initiation.

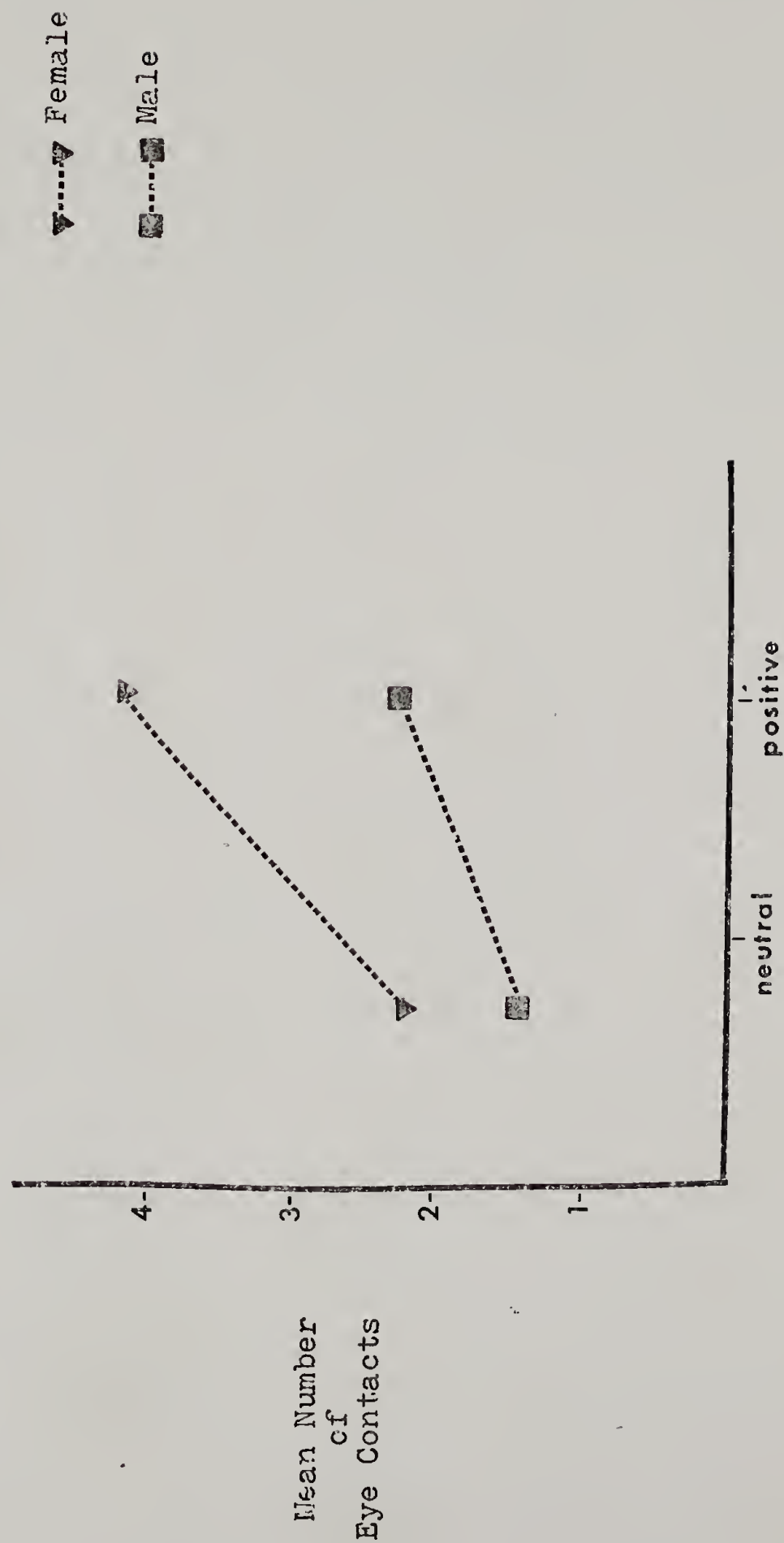
#### Sex of Confederate

Tables 3 and 4 show the main effects of the sex of confederate on each of the dependent variables. The results are strongly in accord with expectations. Specifically, when the confederate was female and the subject was male, the subject made more eye contact ( $\bar{X}_{pos} = 3.27$   $\bar{X}_{neu} = 1.95$ ), smiled more often ( $\bar{X}_{pos} = 1.81$   $\bar{X}_{neu} = .93$ ), spoke more often ( $\bar{X}_{pos} = 5.36$   $\bar{X}_{neu} = 3.8$ ), and initiated more discussion ( $\bar{X}_{pos} = .17$   $\bar{X}_{neu} = .09$ ) than when the confederate was male interacting with a female subject. Only two dependent measures, torso lean and shoulder orientation, did not show a sex of confederate main effect (Table 4). Figures 3, 4, 5 and 6 illustrate the trend of immediacy and sex of confederate effects over time intervals for all dependent measures except shoulder orientation and torso lean. Male subjects also tended to initiate discussion



FIGURE 7

EYE CONTACT AS A FUNCTION OF SEX OF CONFEDERATE  
AND IMMEDIACY OF COMMUNICATION



Immediacy of Communication

earlier when the confederate was female ( $t = 1.66$ , with  $1^{df}$ ,  $p. < .05$ ).

In addition, interactions between immediacy with sex of confederate occurred for eye contact, torso lean and shoulder orientation. Also, a three-way interaction between immediacy with sex of confederate with time intervals was noted for eye contact. These interactions were noted in the previous section.

#### Correlations for dependent measures

Pearson correlation coefficients were computed so as to facilitate analysis of the degree of relation between the dependent variables, eye contact, duration of smile and number of words. Time intervals were collapsed into five main groupings, each conforming to a critical time block surrounding the pre-determined statements by the confederate; thus, allowing for correlational analysis between explicit and implicit measures.

Correlation coefficients between dependent variables for all subjects (across sex main effect and across immediacy main effect) indicated high levels of significance (i.e.,  $p. < .001$  for all coefficients), (Table 5). Furthermore, correlation coefficients for male and female confederates across immediacy conditions (Table 6), depicts high levels of significance ( $p. < .001$ ) for both males and females.

In general, correlations in Columns' A and B are always higher. However, it is interesting to note that in responding to female confederates in the first three intervals (Column A),

Table 5

Pearson correlation coefficients for three dependent variables across  
Sex of Confederate and Immediacy of Communication

	A	B	C	D	E	F
(Eye contact, Smiling)	.89*	.85*	.80*	.80*	.74*	.85*
(Eye contact, Number of words)	.79*	.53*	.61*	.55*	.80*	.84*
(Smiling, Number of words)	.81*	.44*	.46*	.59*	.54*	.73*

\*  $p < .001$

NOTE. - The observation intervals are denoted as follows:

A = intervals 1 - 3,

B = intervals 4 - 5,

C = intervals 6 - 7,

D = intervals 8 - 9,

E = intervals 10-13,

F = intervals 1 -13 (total over all intervals).

Table 6

Pearson correlation coefficients for three dependent variables  
across Immediacy of Communication

		A	B	C	D	E	F
(Eye Contact, Smiling)	Female	.91 *****	.87 *****	.83 *****	.80 *****	.71 *****	.84 *****
	Male	.76 *****	.67 *****	.61 *****	.88 *****	.90 *****	.89 *****
(Eye contact, Number of words)	Female	.86 *****	.61 *****	.56 *****	.59 *****	.86 *****	.87 *****
	Male	.67 *****	.19	.72 *****	.48 *****	.64 *****	.72 *****
(Smiling, Number of words)	Female	.87 *****	.47 *****	.46 *****	.67 *****	.50 *****	.73 *****
	Male	.64 *****	.31 **	.38 *	.40 **	.68 *****	.71 *****

\* p < .05  
\*\* p < .01  
\*\*\* p < .005  
\*\*\*\* p < .001

NOTE. - The observation intervals are denoted as follows

A = intervals 1 - 3,  
B = intervals 4 - 5,  
C = intervals 6 - 7,  
D = intervals 8 - 9,  
E = intervals 10-13,  
F = intervals 1 -13 (total over all intervals).

male subjects show higher correlations among both implicit and explicit cues than for female subjects responding to male confederates. In addition, it is interesting that the only pattern of low correlations occurs between male confederates and female subjects in columns B, C and D for the duration of smile by number of words correlations.

Table 7 contains correlation coefficients for the dependent variables in the neutral and positive immediacy conditions, thus, collapsing across the sex of confederate main effect. It is interesting to note that patterns of low correlations occur which are similar to those observed in Table 6 for the sex of confederate variable. Specifically, during the first three intervals (Column A), subject's implicit and explicit behaviors are much more highly correlated when they are responding to a positive immediacy communication than to a neutral immediacy communication. Similarly, in Columns B, C, and D, the duration of smile with number of words correlation in the neutral immediacy condition shows the only pattern of low correlations in Table 7. Finally, Table 8 shows correlations the dependent variables for both the sex of confederate and immediacy of communication independent variables, further indicating the trend of low correlations mentioned earlier.

#### DISCUSSION

The present study investigated the degree to which specific implicit and explicit communication cues were able to convey and elicit a similar communication. Specifically, the study



Table 7

Pearson correlation coefficients for three dependent variables  
across Sex of Confederate

	A	B	C	D	E	F
(Eye contact, Smiling)	Neutral	.32 *	.76 ***	.80 ***	.86 ***	.84 ***
	Positive	.95 ***	.91 ***	.79 ***	.76 ***	.67 ***
(Eye contact, Number of words)	Neutral	.06	.54 ***	.63 ***	.52 ***	.78 ***
	Positive	.89 ***	.51 ***	.67 ***	.54 ***	.75 ***
(Smiling, Number of words)	Neutral	-.20	.34 *	.43 **	.36 *	.64 ***
	Positive	.90 ***	.48 ***	.55 ***	.66 ***	.43 **
						.60 ***
						.73 ***

\* p < .05  
\*\* p < .01  
\*\*\* p < .005  
\*\*\*\* p < .001

NOTE.

- The observation intervals are denoted as follows:

A = intervals 1 - 3,

B = intervals 4 - 5,

C = intervals 6 - 7,

D = intervals 8 - 9,

E = intervals 10-13,

F = intervals 1 -13 (total over all intervals).

Table 8

Pearson correlation coefficients for three dependent variables

		Neutral						Positive					
		A	E	C	D	E	F	A	B	C	D	E	F
(Eye contact, Smiling)	Female	.24	.76 <sup>d</sup>	.88 <sup>d</sup>	.87 <sup>d</sup>	.87 <sup>d</sup>	.88 <sup>d</sup>	.96 <sup>d</sup>	.93 <sup>d</sup>	.76 <sup>d</sup>	.73 <sup>d</sup>	.61 <sup>b</sup>	.78 <sup>d</sup>
	Male	.34	.75 <sup>d</sup>	.55 <sup>a</sup>	.95 <sup>d</sup>	.67 <sup>c</sup>	.85 <sup>d</sup>	.83 <sup>d</sup>	.59 <sup>b</sup>	.68 <sup>c</sup>	.82 <sup>d</sup>	.95 <sup>d</sup>	.93 <sup>d</sup>
(Eye contact, No. of words)	Female	.21	.64 <sup>c</sup>	.56 <sup>a</sup>	.53 <sup>a</sup>	.86 <sup>d</sup>	.73 <sup>d</sup>	.94 <sup>d</sup>	.57 <sup>b</sup>	.62 <sup>b</sup>	.56 <sup>a</sup>	.81 <sup>d</sup>	.92 <sup>d</sup>
	Male	-.05	.18	.79 <sup>d</sup>	.56 <sup>a</sup>	-.09	.64 <sup>c</sup>	.79 <sup>d</sup>	.08	.66 <sup>c</sup>	.46 <sup>a</sup>	.68 <sup>c</sup>	.73 <sup>d</sup>
(Smiling, No. of words)	Female	-.19	.38	.43 <sup>a</sup>	.38	.71 <sup>c</sup>	.60 <sup>b</sup>	.96 <sup>d</sup>	.51 <sup>a</sup>	.52 <sup>a</sup>	.75 <sup>d</sup>	.30	.75 <sup>d</sup>
	Male	.09	.14	.42	.43 <sup>a</sup>	-.11	.61 <sup>b</sup>	.66 <sup>c</sup>	.24	.30	.31	.71 <sup>d</sup>	.75 <sup>d</sup>

a-  $p < .05$ b-  $p < .01$ c-  $p < .005$ d-  $p < .001$ 

NOTE. - The observation intervals are denoted as follows:

A = intervals 1 - 3,

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intended to induce reciprocal immediacy levels by experimental manipulation of immediacy in dyadic, mixed sex, interactions. A first hypothesis predicted that the level of immediacy communicated by the confederate would elicit a response of similar immediacy and intimacy from the subject. Thus, it was predicted that when a confederate communicated subtle positive nonverbal and verbal messages to a subject, the latter would reciprocate nonverbally and verbally in a similar degree of affiliation. Also, when the confederate was ambivalent, that is, engaging in neutral immediacy, in his attitude towards the subject, it was predicted that the subject would convey a similar ambivalence.

The results of the study supported these predictions on the levels of subject-conveyed immediacy. Subjects responded with greater immediacy in the positive condition than in the neutral condition. Specifically, the implicit cues: eye contact, duration of smile, torso lean and shoulder orientation, yielded high levels of significance ( $.05 > p < .001$ ), substantiating predictions concerning the immediacy of communication effect. Thus, subjects engaged in implicit communication with more conveyed immediacy in the positive mode. Results for the explicit communication measures: number of words and number of statements of initiation, yielded similar high levels of significance ( $p < .001$ ). Thus, for positive immediacy, subjects responded by saying more and by making more statements of initiation than in the neutral mode. Only

one explicit measure, time to first statement of initiation, was not significant for the immediacy of communication main effect. One explanation might be that the time to first statement of initiation measure was experimentally manipulated such that, over both immediacy conditions, confederate statements of initiation were at identical times; thus, eliciting statements from the subject within the same approximate time intervals. However, this measure did have a significant sex main effect, indicating a willingness by male subjects to be more verbally assertive in interactions with female confederates.

Thus, given that the results tend to support this hypothesis, it can be concluded that situationally appropriate explicit and implicit cues can be used to influence the level of affiliation established in the mixed-sex first encounter. These findings tend to support the general model of social interactions described earlier (Argyle, 1969, Altman and Taylor, 1973). Initially, the explicit content of the confederate's communications to the subject (stranger) were of a non-personal, non-intimate nature, thus allowing a gradual evaluation and categorization process (Argyle) and development of a rewards/cost interpretation of the interaction to evolve (Altman and Taylor; Thibaut and Kelley, 1959). Eventually, confederates were perceived and responded to on the basis of minimal differences in the immediacy of their communications. At this point in the interaction, each participant is interacting with



the other in the role that has evolved for him in the "equilibrium process" (Argyle, 1969). Specifically, the subject's role developed from the information he/she derived from the confederate's communications; this, in addition to other role-determining factors, including the context of the interaction (i.e., how much intimacy is appropriate in the Coffee Shop setting), and the sex of the confederate (i.e., whether the confederate's behavior is in keeping with sex role expectations).

Findings also supported our conceptualization of the role of communication, and in particular, implicit communication, with regard to the risk of too much commitment in the initial stages of the interaction (Dorris, 1972). That is, results of the study demonstrate a high reliance on implicit cues to avoid the risk of too much commitment (i.e., active verbal input). Specifically, a breakdown of the use of implicit and explicit cues indicated that those cues that allowed a minimal commitment by the subject were used more frequently and earlier on in the interaction. Thus, eye contact and duration of smile were most frequent and began earlier; then, shoulder orientation and torso lean followed, and statements of initiation which also did not occur until after the confederate's third statement were least frequent of all.

A second hypothesis predicted that, for similar levels of confederate-encoded immediacy, the sex of the confederate would have an effect on the levels of immediacy elicited from subjects. Thus, it was expected that female confederates



would elicit explicit and implicit responses from male subjects that were more immediate than responses from female subjects towards male confederates. Results of the study strongly supported these predictions. Specifically, male subjects engaged in significantly more eye contact, smiling, talking, and made more statements of initiation towards female confederates. However, both the torso lean and shoulder orientation measures did not yield significant results for the sex of confederate main effect. However, it is possible that changes in torso lean and shoulder orientation, as a function of the sex of confederate, were not appropriate in the coffee shop setting. That is, changes in these static variables might communicate too much affiliative commitment by the male subject so early in an interaction with a stranger.

As might be expected, given the high significance levels of the explicit cues for the sex of confederate main effect, the time to first statement of initiation measure was also significant. Simply, results indicated that male subjects took a more active verbal role in the interaction with female confederates in a significantly shorter time than female subjects did with male confederates. The last finding suggests that subtle verbal cues, like statements of initiation, may be more acceptable and appropriate in mixed-sex interactions between strangers than are some implicit cues like shoulder orientation and torso lean. Furthermore, these findings demonstrate that the sex of the confederates was more influen-

tial in effecting the length of time until the first statement of initiation by a subject than was the immediacy of the communication. In line with our earlier discussion (see Introduction) of how "out of role" behavior is perceived and responded to (Jones and Davis, 1965), this suggests that ambiguous initiations by a female student toward an unknown male student in this setting is more "out of role" than is the positive immediacy communication. Hence, the female's initiations toward the male subject are seen as being more informative of her affiliative intentions than are the positive immediacy conditions (across the sex of confederate). In short, traditional sex role stereotypes (eg., Bernard, 1968) appear to be right at home in the university coffee shop of the mid 1970's.

In addition to the hypotheses tested in the present study, several questions concerning various aspects of first encounter interactions were addressed. The first question asks how much time and input by the confederate is necessary to clarify the meaning of the interaction, so as to allow the subject to respond definitively. Results tended to indicate that the contents of the confederate's communication (excluding active verbal input) did not clarify the relationship between the confederate and the subject sufficiently enough to encourage active subject participation from the outset (a result in accord with pilot study findings). The average time to the subject's first statement of initiation (114 seconds) suggests

that even three statements by the confederate were still not sufficient in clarifying the relationship. However, shorter times to first statement of initiation by the subject and the correlations in Column A of Table 6 that suggest a strong sex of confederate effect in the first forty-five seconds of the interaction. In line with the above discussion, this suggests that female out-of-role behavior may be quite instrumental in clarifying the relationship between strangers at a coffee shop table.

The second question asks how much time is necessary for extinction of the interaction to occur following the cessation of one of the interactors involvement and commitment to the interaction. Since the basis for interaction is not clear between the confederate and the subject (i.e., confederate did not commit himself to discussion, even after statements of initiation by the subject), it is not surprising that initiations (which can be considered to be "high risk" input) by the subject decreased rapidly in all conditions after the confederate stopped responding. However, results for eye contact, smiling, number of words and statements of initiation (Figures 3, 4, 5 and 6) suggest that in interactions where higher levels of immediacy are established, extinction occurs more slowly for implicit (i.e., less "risky") communications. Similarly, in interactions where the confederate is female, extinction occurred more slowly than in interactions with male confederates. That is, that for the positive immediacy con-

dition and for female confederates, implicit-nonverbal cues from the subject were maintained longer, even after verbal interaction had ceased. This finding suggests that implicit cues are less risky and thereby more appropriate in an interaction where dialogue has stopped and further verbal input too risky (Dorris, 1972).

The third question concerns the interrelation of implicit and explicit behaviors and whether these behaviors correlate substantially so as to necessitate a more global approach to researching them. Results on Tables 5- clearly demonstrate high correlations between explicit cues with each other and with implicit cues. Moreover, these correlations become even more significant when the communication is of greater immediacy, and, therefore, more meaningful to the interactor. These findings suggest that neutral (ambivalent) communications from the confederate are responded to by the subject in a manner that is similarly unclear and ambivalent; hence, the lower correlations. With regard to existing experimental research, the findings clearly indicate the need to study the role of patterns of communications (as in our positive vs. neutral immediacy conditions) in realistic interactions.



## SUMMARY

This study investigated the role of implicit and explicit communication during first encounters of mixed-sex, mixed-motive dyads in a naturalistic setting. Thirty male and thirty female subjects participated in a naturally occurring interaction in a Coffee Shop with a stranger of the opposite sex (confederate). A  $2 \times 2 \times 13$  factorial design was employed, varying the mode of communication (positive vs. neutral), and the sex of confederate over thirteen timed intervals. Prior to the experiment, a pilot test was performed to establish what behaviors were appropriate in the natural setting and amenable to experimental manipulation. From this data, scenarios for confederate explicit and implicit behaviors were constructed for positive and neutral conditions.

It was hypothesized that subjects would respond to confederate implicit and explicit behaviors with behaviors that were of similar immediacy levels (i.e., positive or neutral). The subject was expected to engage in more positive implicit and explicit behaviors when the confederate performed a positive communication. A second hypothesis predicted that there would be a sex of confederate main effect. Specifically, it was expected that female confederates would elicit a more positive response from male subjects, than would male confederates with female subjects.

For all implicit dependent measures, eye contact, smiling, shoulder orientation and torso lean, the first hypothesis was



supported. For each of these measures, positive conveyance by the confederate elicited a positive response from the subject. In testing the second hypothesis, only two implicit measures, eye contact and smiling were significant. However, the two nonsignificant measures, shoulder orientation and torso lean, were static variables and therefore not expected to change significantly.

Two of three explicit dependent measures, number of words and number of statements of initiation, were significant, thereby supporting the first hypothesis. A third measure, time to first statement of initiation, was not significant. For all explicit measures there was a significant sex of confederate main effect, thus supporting the second hypothesis.

## FOOTNOTES

<sup>1</sup> Statements of initiation include all statements that direct a participant to enter into an interaction verbally. These include three categories of statements: (1) Questions: "What do you think about him?", "Do you come here often?" (2) Implied Questions: "I wonder if the weather is going to stay like this.", "I come here a lot, I'm sure we'll run into each other again." (3) Open-ended statements that demand acknowledgement in which the clause "don't you think" is implied: "You know, this place could use some music or something."

<sup>2</sup> The content of both the explicit and implicit communications was restricted to positive and neutral messages. Contextual and ethical considerations ruled out the use of negative content.

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OBSERVER RATING SHEET	DATE _____ TIME _____ OBS'N # _____
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## APPENDIX B

## NEUTRAL IMMEDIACY SCENARIO

(time  
in  
secs)

enter from register...walk towards table...upon arrival

NV: eye contact kept to minimum (1 second/30 seconds)  
minimal eye contact allowed while subject speaks...  
no smiling except in line with scenario (2 seconds/  
30 seconds)...

standing...

000 V: "Can I sit here?" (with short glance)...

upon response, sit down in appropriate seat...  
adjust yourself (i.e., put down books, etc.)...  
begin sipping Coke...

NV: shoulders should be perpendicular to subject's...  
no torso lean...short glance to subject...

060 V: "I got an awfully sweet Coke."

said with drink in hand...put down drink...sporadically  
sip drink...

NV: continue as before

sip drink again...put down drink...slight pause (5  
seconds)...begin to speak looking at drink, in dis-  
gusted voice...glance at subject...

090 V: "You'd think that with the amount that I paid, that  
they'd have decent Cokes here."

look at drink...disgusted...

NV: continue as before

pause...looking down at table...

110 V: (slightly curious)... "I wonder if...(glance at sub-  
ject)...it would do any good if I told them about  
this."

NV: continue as before

pause approximately 60 seconds...if no dialogue, pre-  
pare to leave...exit...

185 V: "I can't drink this." -or- "I see some friends."



## APPENDIX C

## POSITIVE IMMEDIACY SCENARIO

(time  
in  
secs)

enter from register...walk toward table...upon arrival

NV: eye contact is maximum during speech...(one second/  
ten seconds)...smiling allowed during speech...  
(two seconds/fifteen seconds)...  
standing...

000 V: "Do you mind if I join you?"...(full eye contact)  
upon response, sit down in appropriate seat...  
adjust yourself (i.e., put down books)...and begin  
Coke...

NV: shoulders are angled toward the subject...  
torso lean is slightly forward...eye contact is  
maximum during speech...

060 V: "They serve us awfully sweet Coke, here."  
said with drink in hand...put down drink...sporadically  
sip drink...

NV: continue as before  
sip drink again...put down drink...slight pause (five  
seconds)...begin to speak looking at drink, in disgus-  
ted voice...glance at subject...maximum E. C. during  
speech...

090 V: "You'd think that with the amount that we paid,  
that they'd serve us decent Cokes here."  
look at drink...disgusted

NV: continue as before  
pause...looking down at table...

110 V: (slightly curious)... "I wonder if...(looking at  
subject)...it would do any good if we told them  
about stuff like this."

NV: continue as before...  
pause approximately sixty seconds...if no dialogue,  
prepare to leave...exit...

135 V: "I can't drink this." -or- "I see some friends."



